

1. An image reading method for obtaining a shading correction coefficient for correcting image data obtained by reading a document image, comprising the steps of:

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the average value of readings from each image sensor is an average value of readings obtained by reading the reference plate in the main scanning direction plural times.

5 4. An image reading method for obtaining a shading correction coefficient for correcting image data obtained by reading a document image, comprising the steps of:

reading a reference plate in a main scanning direction plural times at different positions in a sub-scanning direction perpendicular to the main scanning direction with use of a plurality of image sensors aligned in the main scanning direction;

calculating difference per image sensor between a maximum value among a plurality of readings from each image sensor and an average value of readings from each image sensor; and

obtaining the shading correction coefficient by adding a value corresponding to the difference of each image sensor to a correction coefficient so that the maximum value of each image sensor becomes a specified image level.

5. An image reading method for obtaining a shading correction coefficient for correcting image data obtained by reading a document image, comprising the steps of:

reading a reference plate in a main scanning

direction plural times at different positions in a sub-scanning direction perpendicular to the main scanning direction with use of a plurality of image sensors aligned in the main scanning direction;

5               calculating difference between an average value of maximum values among a plurality of readings from each image sensor and an average value of readings from each image sensor; and

                  obtaining the shading correction coefficient by  
10       modifying a correction coefficient for correcting the image data so that the maximum value of each image sensor becomes a specified image level in correspondence to the difference of each image sensor.

6.           The image reading method for obtaining a shading  
15       correction coefficient as defined in Claim 5, wherein

                  the average value of readings from each image sensor is an average value of readings obtained by once reading a reference plate in the main scanning direction.

7.           The image reading method for obtaining a shading  
20       correction coefficient as defined in Claim 5, wherein

                  the average value of readings from each image sensor is an average value of readings obtained by reading the reference plate in the main scanning direction plural times.

8.           An image reading device for obtaining a shading



direction plural times at different positions in a sub-scanning direction perpendicular to the main scanning direction with use of a plurality of image sensors aligned in the main scanning direction;

5           calculating difference between an average value of maximum values among a plurality of readings from each image sensor and an average value of readings from each image sensor; and

          obtaining the shading correction coefficient by  
10       adding a value corresponding to the difference of each image sensor to a correction coefficient so that the maximum value of each image sensor becomes a specified image level.

10.       An image reading device, comprising:

15       a plurality of image sensors aligned in a main scanning direction;

          calculation means for reading a reference plate in the main scanning direction plural times at different positions in a sub-scanning direction perpendicular to the  
20       main scanning direction with use of the image sensors and calculating difference per image sensor between a maximum value among a plurality of readings from each image sensor and an average value of readings from each image sensor;

          amplification means for amplifying image signals  
25       read by the image sensors; and

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peak value of the readings of the reference intensity plate;

storage means for storing the peak value;

average value calculation means for calculating  
5 an average value of the readings of the reference intensity plate;

difference data calculation means for calculating  
difference data between the peak value and the average  
value;

10 compensation coefficient setting means for  
setting a compensation coefficient through use of the peak  
value stored in the storage means as shading compensation  
reference data;

15 compensation means for compensating readings of  
the image document through use of the compensation  
coefficient; and

gain adjustment means for changing the  
amplification factor of the amplification means according  
to the difference data so as to make the amplification  
20 factor for use in the case where the amplification means  
amplifies signals representing images of the reference  
intensity plate different from the amplification factor for  
use in the case where the amplification means amplifies  
signals representing images of the image document.